Determination of Public Land (Rangeland) Health for 65081 SOUTH WIGGINS

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the South Wiggins allotment #65081 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. KREAGER	09/09/2004
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 65081 SOUTH WIGGINS Allotment
[05/05/2004]

The Roswell Field Office conducted rangeland health assessments at two (2) study sites within the South Wiggins Allotment #65081. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Note: This allotment was combined with the Wiggins Place Allotment #65072 in late 2003. The Rangeland Health Assessment on this allotment was completed in FY 2003.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65072-SOUTHEAST-C058 (*)	X	*		X	*		N/A		
65072-SOUTHWEST-C059	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the South Wiggins allotment; 10 of these assessed soil/site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments along with quantitative information from two areas were utilized to assess the rangeland health of the public land within the allotment. Prior to this year the allotment was a "C" category (custodial) because of the small amount of public land within the allotment. This allotment has now been consolidated with the Wiggins allotment 65072.

While drought over the past three years has had an impact on these sites, the assessments of the indicators range from Moderate down to Slight to None. The exception being the presence of invasive plants, mesquite (Prosopis glandulosa) in the deep sand site and the amount of bareground throughout the site. The functional/structual groups have sand shinnery oak (Quercus havardii) and mesquite as dominants; the grass groups are present but sparse in densities. Overall the condition of the public land on the allotment is in a stable state.

These ratings are based on a subjective assessment since no monitoring data is available. A new permanent trend study was established in the Southeast Pasture and is scheduled for data collection in FY 2005.

To some extent the hydrologic function (overland water flow) has been impacted by the increased oil/gas activities and the associated road development in this area.

Hydrology - Pasture JT131 - The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits outcrop in the area.

Pasture Southeast - The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soil which may have increased the amount of pedestaling of plants and rocks. The bareground indicator rated as moderate. The amount of bareground has possibly increased due to recent dry conditions and also wind and water erosion processes. The litter movement indicator rated in the moderate category. The decrease in litter movement suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced and litter movement. Soil surface resistance to erosion rated in the moderate category. Organic matter is lacking on this site, but this is expected for an area that has a small amount of litter present. The soil surface loss or degradation has rated out as moderate. The recent dry conditions, decrease in the strength of physical crusts and or absence of soil crusts, wind velocity, surface dryness, and the decreased amount of surface plant cover has possibly increased soil surface loss to degradation. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits outcrop in the area. Sand, gravel and mustone deposits of the Gatuna Formation outcrop in the area.

Wildlife - Evalution of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hrydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecolological site description, such as annaul production and invasive plants, as discussed above. Specifically, only two biotic indicators fell within the Moderate rating, functional/strucutral/groups and invasive plants.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evalution. With respect to special status species, none are

known to occur in the area of interest at this time and the habitat and population indicators are, therefore rated None to Slight.

Southwest Pasture - The area of interest is relatively undisturbed and includes the playa (on private land) as a special habitat feature. The two biotic factors that rated Moderate, litter amount and annual production, are closely tied to the drought conditions that have prevailed for the past several years, and is to be expected. The other biotic factor which rated moderate was functional/structural groups. The area of interest is a gyp upland site which can affect some of the grass components that are listed for the site such as alkali sacaton (Sporobolus airoides) and tobosa (Pleuraphis mutica) which are more commonly found on loamier soil.

Southeast Pasture - Several biotic factors (singular and combined with soil/hydrology) were rated as Moderate for the area of interest. The area is in an ecotone between Mescalero Sands to the east and the Pecos River valley. Impacts to this area include the encroachment of mesquite, increasing oil and gas activity, and erosion from wind and water (especially from roads constructed for oil and gas development). Habitat fragmentation and the shift to a mesquite dunal complex with oil and gas activity are the primary concerns.

In the professional opinion of the Assessment Team, the public land within the South Wiggins allotment meets the Upland and Biotic Standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding the assessments on this allotment.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations:

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-SOUTHEAST-C058			
Legal Land Desc	SWSW 11 0140S 0270E Meridian 23	Acreage	595
Ecosite	042CY005NM DEEP SAND SD-3	Photo Taken	Y
Watershed	13060007070 LONG		
Observers	SPAIN/NAVARRO	Observation Date	05/05/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	Rn	Soil Taxon Name	ROSWELL
Texture Class	NM666 FS	Soil Phase	ROSWELL-JALMAR
Texture Modifier	NM666 FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.59	NOAA Growing Season Precipitation	6.47
NOAA Avg Annual Precipitation	12.5	NOAA Avg Growing Season Precipitation	10.3
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes			X		
Comments	affects of wind primarily					

:						
S H	Bare Ground			X		
Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement			X		
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	some weak capping					
S H B	Soil Surface Loss or Degradation			X		
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments						

:						
B	Annual Production			X		
Comments:						
B	Invasive Plants		X			
Comments:	Mesquite is common					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	
Comments:	Rolling, sandy dune habitat with mesquite/shinnery vegetation component. Ecotonal area between Mescalero Sands to the east and the Pecos River valley. Shinnery oak providing additional forage for wildlife. Diverse habitat but mesquite domination of the site has changed character of the landscape. Impacts include increasing oil and gas activity such as roads/pads/pipelines. Habitat fragmentation and wildlife harassment increasing. Erosion from roads increasi					
B	Wildlife Populations				X	
Comments:	No specific wildlife population information at this time. Species of concern include mule deer, pronghorn antelope, upland game birds and a variety of terrestrial wildlife species. Long term shift of avifauna from mesquite invasion, shift toward grassland birds which prefer more shrubby component.					
B	Special Status Species Habitat					X
Comments:	None known to occur					
B	Special Status Species Populations					X
Comments:	None known to occur					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for						

each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	4	3	3
H	Hydrologic	0	0	6	2	3
B	Biotic	0	1	4	3	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	4	6
Hydrologic		0	6	5
Biotic		1	4	8

Site Notes: Prior to this year the allotment was in a Custodial status. Late 2003 this allotment was consolidated with the Wiggins Allotment 65072. A permanant study plot was established in the Deep Sand SD-3 site.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-SOUTHWEST-C059			
Legal Land Desc	NWNW 10 0140S 0270E Meridian 23	Acreage	382
Ecosite	042CY006NM GYP UPLAND SD-3	Photo Taken	Y
Watershed	13060007070 LONG		
Observers	SPAIN/NAVARRO	Observation Date	05/06/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	HrC	Soil Taxon Name	HOLLOMAN
Texture Class	NM666 L	Soil Phase	HOLLOMAN-GYPSUM LAND
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.59	NOAA Growing Season Precipitation	6.47
NOAA Avg Annual Precipitation	12.5	NOAA Avg Growing Season Precipitation	10.3
Disturbances and Animal Use:			

Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground				X	
Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion					X
Comments:	Both physical and biological crust are holding soil in place					
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer				X	
Comments:	Clay layer may be susceptable is heavy/prolonged concentrated grazing durin wet periods.					
B	Functional/Structural Groups			X		
Comments:	Little or no alkali sacaton/tobossa; gyp dropseeds, gyp grama and alkali muhly. This soil association may not support the quanity of alkali sacaton/tobossa expressed in the site guide.					
B	Plant Mortality/Decadence					X
Comments						

:						
H B	Litter Amount			X		
Comments:	lower end of range and is affected by the droughty conditons last year					
B	Annual Production			X		
Comments:						
B	Invasive Plants				X	
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Both physical and biological crust					
B	Wildlife Habitat				X	
Comments:	Relatively flat grassland habitat with shrubby components reflecting Chihuahuan Desert influence on low hills. Gypsiferous vegetation. Playa area in vicinity (dry) but an important forb-producing area.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population information at this time. Species of concern primarily pronghorn antelope and a variety of non-game terrestrial wildlife species. Playa may be a seasonal feature (water) and currently excellent forbs production enhancing wildlife populations in the area.					
B	Special Status Species Habitat					X
Comments:	None known to occur					
B	Special Status Species Populations					X
Comments:	None known to occur					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for						

each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5
H	Hydrologic	0	0	1	6	4
B	Biotic	0	0	3	4	6

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	1	10
Biotic		0	3	10

Site Notes:

65081 (now 65072) Southeast

65081 (now 65072) Southwest